

### *REMARKS*

#### **Amendments**

Claims 1 and 16 have currently been amended. Claims 1-11, 14-16 and 28-31 are currently pending in the present application.

The methods of claims 1 and 16 have been amended for the sake of improved clarity. Specifically, these claims have been amended to indicate that the step of removing particulate material includes using microfiltration to filter out particulate material having a particle size of greater than about 0.2  $\mu\text{m}$  from the extract to produce a purified extract comprising  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$  as a filtrate. Support for this amendment is provided, for example, at page 17, lines 9-11 and 18-20 of the description. It is clear that the use of microfiltration in the presently claimed methods to filter out material having a particle size of greater than about 0.2  $\mu\text{m}$  would inherently produce a filtrate comprising  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of *less* than 0.2  $\mu\text{m}$  (i.e., the filtering agent used in the microfiltration step would have a cut-off value of 0.2  $\mu\text{m}$ ).

It is submitted that these amendments do not constitute new matter, and their entry is requested.

#### **Rejection Under 35 U.S.C. § 103(a)**

The Examiner has rejected claims 1-6, 9, 11, 14, 15 and 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Bhatti (U.S. 5,518,710) in view of Potter et al. (U.S. 6,323,338). Applicants submit that the amendment of the claims obviates this rejection.

More specifically, Applicants have amended the claims to specify that the step of removing particulate material includes using microfiltration to filter out particulate material having a particle size of greater than about 0.2  $\mu\text{m}$  from the extract to produce a purified extract comprising  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$  as a filtrate.

Neither Bhattý nor Potter et al. teach or suggest using microfiltration to isolate a filtrate comprising  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$  from a basic extract of a milled cereal grain or a milled part of a cereal grain.

Rather, Potter et al. teaches using ultrafiltration with a membrane having a cutoff size of 0.2  $\mu\text{m}$  to collect a *retentate* comprising  $\beta$  (1-3)  $\beta$  (1-4) glucans having particle sizes of *greater* than 0.2  $\mu\text{m}$ . (see column 6, lines 26-32 and FIG. 2). Potter et al., therefore, teaches away from retaining a filtrate (permeate) comprising  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of *less* than 0.2  $\mu\text{m}$ , as recited in the method of the presently amended claims.

Bhattý discloses a method that includes removal of degraded starches from a  $\beta$  glucan extract using centrifugation, dialysis or filtration (column 3, lines 63-65). The method of Bhattý would, not, however, result in the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$ , but rather a composition that comprises  $\beta$  (1-3)  $\beta$  (1-4) glucans having a *broader* range of particle sizes. Thus, Applicants submit that the combination of Bhattý and Potter et al. does not render the claimed subject matter obvious.

In view of the above amendments and remarks, Applicants submit that the claimed subject matter is not obvious from the combination of Bhattý and Potter et al. Withdrawal of this rejection is requested.

#### **Rejection Under 35 U.S.C. § 103(a)**

The Examiner has also rejected claims 1-9, 11, 14, 15 and 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Bhattý in view of Potter et al. as applied to claims 1-6, 9, 11, 14, 15 and 29-31 above, and further in view of Puski et al. (U.S. 4,830,861). Applicants submit that the amendment of the claims obviates this rejection.

As detailed above, the combination of Bhattý and Potter et al. does not disclose or suggest the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$ , but rather teach away from the present invention by disclosing the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of greater than 0.2  $\mu\text{m}$ . Puski et al. does not cure the deficiencies of Bhattý

and Potter et al. Thus, Applicants submit that the combination of Bhatt, Potter et al. and Puski et al. does not render the claimed subject matter obvious.

In view of the above amendments and remarks, Applicants submit that the claimed subject matter is not obvious from the combination of Bhatt, Potter et al. and Puski et al. Withdrawal of this rejection is requested.

#### **Rejection Under 35 U.S.C. § 103(a)**

The Examiner has rejected claims 1-6, 9-11, 14, 15 and 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Bhatt in view of Potter et al. as applied to claims 1-6, 9, 11, 14, 15 and 29-31 above, and further in view of Novozymes (June 1, 2002, novozymes.com). Applicants submit that the amendment of the claims obviates this rejection.

As detailed above, the combination of Bhatt and Potter et al. does not disclose or suggest the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$ , but rather teach away from the present invention by disclosing the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of greater than 0.2  $\mu\text{m}$ . Novozymes does not cure the deficiencies of Bhatt and Potter et al. Thus, Applicants submit that the combination of Bhatt, Potter et al. and Novozymes does not render the claimed subject matter obvious.

In view of the above amendments and remarks, Applicants submit that the claimed subject matter is not obvious from the combination of Bhatt, Potter et al. and Novozymes. Withdrawal of this rejection is requested.

#### **Rejection Under 35 U.S.C. § 103(a)**

The Examiner has also rejected claims 1-6, 9-11, 14-16 and 28-31 under 35 U.S.C. § 103(a) as being unpatentable over Bhatt in view of Potter et al. as applied to claims 1-6, 9, 11, 14, 15 and 29-31 above, and further in view of Morgan (WO2001/057092). Applicants submit that the amendment of the claims obviates this rejection.

As detailed above, the combination of Bhatt and Potter et al. does not disclose or suggest the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of less than 0.2  $\mu\text{m}$ , but

rather teach away from the present invention by disclosing the isolation of  $\beta$  (1-3)  $\beta$  (1-4) glucan having a particle size of greater than 0.2  $\mu\text{m}$ . Morgan does not cure the deficiencies of Bhatti and Potter et al. Thus, Applicants submit that the combination of Bhatti, Potter et al. and Morgan does not render the claimed subject matter obvious.

In view of the above amendments and remarks, Applicants submit that the claimed subject matter is not obvious from the combination of Bhatti, Potter et al. and Morgan. Withdrawal of this rejection is requested.

### **Conclusion**

In view of the above amendments and remarks, Applicants believe that the present claims satisfy the provisions of the patent statutes and are patentable over the cited prior art. Reconsideration of the application and early notice of allowance are requested. The Examiner is invited to telephone the undersigned to expedite the prosecution of the application.

Respectfully submitted,

By /Jeffrey L. Ihnen/  
Jeffrey L. Ihnen  
Registration No. 28,957  
Attorney for Applicant  
1425 K Street, N.W., Suite 800  
Washington, D.C. 20005  
phone: 202-783-6040  
fax: 202-783-6031